



Moving health assessments into the future

The idea behind health assessments isn't new.

Clinicians have been asking about their patients' personal behaviors, risks, life-changing events, health goals, and priorities for decades.

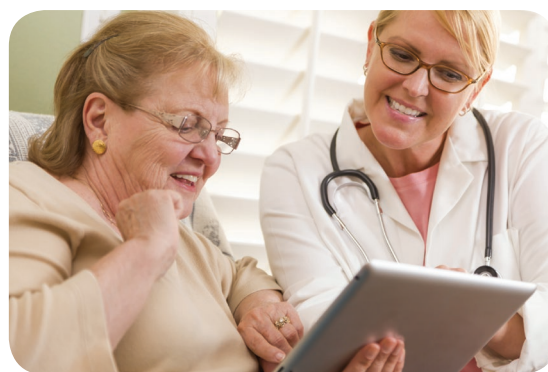
The answers were often on pieces of paper tucked away on medical charts.

But health assessments in the 21st century are different. They can be incorporated in electronic health records, and they are often evidence-based. In some cases, they're also mandatory.

"The Affordable Care Act has given us new opportunities for wellness," says Ric Ricciardi, Ph.D., N.P., health scientist in AHRQ's Center for Primary Care and Prevention. "Many people know about the annual Medicare wellness visit, but they don't necessarily know there's a health assessment component. Practices are not only required to do annual health assessments for Medicare patients, they can now get reimbursed for them."

For clinicians, figuring out which questions to ask, how to ask the questions, when to ask, how to involve the health care team, and how and when to followup on the answers and engage patients can be complicated. AHRQ's "Health Assessments in Primary Care: A How-To Guide for Clinicians and Staff" can help.

The guide, one of many tools AHRQ has developed to improve primary care, provides evidence-based information on health assessments, followup activities, and monitoring of progress. It can help practices implement the Medicare Annual Wellness visit and support national initiatives,



A patient discusses her health assessment with her doctor.

such as the Center for Medicaid & Medicare Services' meaningful use standards for electronic health records. The guide can also help practices seeking recognition or accreditation as a patient-centered medical home.

To learn more, *Research Activities* spoke with Ricciardi, researchers who developed the guide, and clinicians who tested it. The guide was prepared by the University of Colorado, Department of Family Medicine, the Colorado Health Outcomes Program, and the Shared Networks of Collaborative Practices and Partners (SNOCAP), which is a practice-based research network.

AHRQ's guide complements the Centers for Disease Control and Prevention report entitled

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Highlights

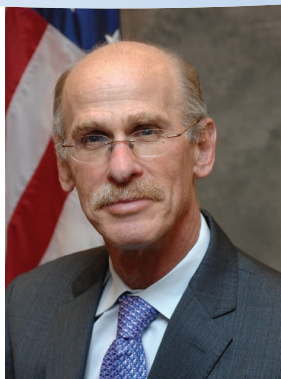
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From the Director



Patient-centered outcomes research (PCOR) compares the benefits and risks of various treatment options

that clinicians and patients can use to make informed decisions about care. As a result of the Affordable Care Act, AHRQ receives funds to disseminate and help implement PCOR findings.

Dissemination and implementation of PCOR findings is a top priority for AHRQ. By making evidence available on health care treatment options – not only evidence on preventive, diagnostic, and palliative care, but also system-level interventions – PCOR can help clinicians and their patients make informed decisions, with the potential to affect health outcomes, quality of life, and even mortality.

As part of AHRQ's plans, the Agency will be targeting primary care practices as part of our PCOR dissemination and implementation activities. Those activities will build on existing efforts, including distribution of evidence-based tools such as the "Health Assessments in Primary Care: A How-to Guide" discussed in this month's cover story.

In addition, AHRQ is sharpening its focus on improving cardiovascular health through PCOR in alignment with the Department of Health and Human Services' (HHS) Million Hearts initiative. AHRQ has just released two new Funding Opportunity Announcements (FOAs) as part of this effort. The first FOA will fund up to 8 grantees that will use evidence-based quality improvement strategies, including practice facilitation, to implement new PCOR evidence into the delivery of care. The second FOA solicits a robust, external evaluation of the initiative to discover if and how practice support can best be used to disseminate and implement PCOR findings in primary care

practice. AHRQ expects the grants will be funded in early 2015. More information is on AHRQ's Web site, www.ahrq.gov, under "Funding and Grants."

These efforts exemplify the Agency's commitment to continue collaboration with HHS and other stakeholders to disseminate and implement PCOR evidence – all consistent with the AHRQ's mission to produce evidence to make health care safer, more accessible, equitable, and affordable, and to make sure the evidence is understood and used.

A handwritten signature of Richard Kronick, Ph.D.

Richard Kronick, Ph.D.

From the Editor

After nearly a quarter century, *Research Activities* will no longer be published as a monthly. AHRQ is transitioning to a new quarterly thematic publication that will provide longer, more in-depth analyses of individual topics related to AHRQ's four priority areas. The new format recognizes that you have many sources for information on AHRQ-funded research and what may be of most value is greater context for understanding AHRQ's work. However, *Research Activities* readers will still be able to access published studies by AHRQ and AHRQ-supported researchers on the AHRQ Research Studies Web page. Studies can be accessed by first author, publication date, and key word. Thank you to all our readers over the years who have told us how much they have enjoyed the newsletter. We hope that our new publication will be equally useful in learning more about AHRQ and the field of health services research!

Research Activities is a digest of research findings that have been produced with support from the Agency for Healthcare Research and Quality. *Research Activities* is published by AHRQ's Office of Communications and Knowledge Transfer. The information in *Research Activities* is intended to contribute to the policymaking process, not to make policy. The views expressed herein do not necessarily represent the views or policies of the Agency for Healthcare Research and Quality or the Department of Health and Human Services. For more information, contact Gail Makulowich at gail.makulowich@ahrq.hhs.gov.

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Health assessments

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“Framework for Patient-Centered Health Risk Assessments,” which provides a theoretical framework for implementing health assessments. “The AHRQ guide takes a practical how-to approach to help clinicians start or improve their implementation of health assessments,” says Ricciardi.

Health assessments, also referred to as health risk assessments, allow clinicians to systematically collect and analyze health-related information to identify and support beneficial health behaviors like a low-fat diet and exercise and to identify and counsel change of potentially harmful behaviors, such as smoking, lack of exercise, and heavy drinking.

“It’s also important to learn what health assessments aren’t. They are not intended to be diagnostic tools and they are not complete health histories,” says Ricciardi. “Health assessments give clinicians the opportunity to talk about issues and concerns that don’t always come up during other visits. Ideally, they help engage patients in their own health and lead to better lifestyle choices and improved health behaviors in the long run.”

“Health assessments are tailored to the patient population of the particular practice and thus there is no one size fits all,” says Ricciardi. “A one-provider practice in Wyoming and a 10-provider practice in downtown Washington, DC, will do things differently.” Even within a practice, clinicians may use different techniques. Health assessments can be done in person, by phone, by written questionnaire, or on a computer or tablet. Says Ricciardi, “The individual taking the assessment needs to feel comfortable giving

answers. Clinicians ask about drinking and other behaviors that people might find sensitive or difficult to talk about.”

Health assessments give clinicians the opportunity to talk about issues and concerns that don’t always come up during other visits.

Health assessments can help clinicians and patients evaluate and prioritize behaviors that can be changed, such as diet and exercise for patients with a sedentary lifestyle. “The questions aren’t necessarily about diabetes but about eating habits and exercise,” explains Ricciardi. “The assessment focuses on behaviors that are modifiable.”

Beyond the questions

“It’s not good enough to ask the questions,” says Douglas Fernald, M.A., project manager for the AHRQ guide and a senior instructor at the Department of Family Medicine at the University of Colorado. When Fernald spoke with families and patient advisory groups about health assessments, he found a lot of agreement about the use and purpose of health assessments in primary care.

But he emphasizes, “The information is most beneficial if there’s a trusting relationship between the patient and the health

care team, and the patient needs to know how clinicians are going to use the information. Followup is crucial.”

Followup can begin with what Fernald calls an “informed conversation” that focuses on the patient’s priorities. Nurses or other staff can be involved with referrals to community resources, such as smoking cessation programs, and support to reinforce behavior changes.

But followup can be challenging, according to Fernald. “How do you work this in? There are competing demands in a practice.”

The principal investigator of the project to develop and test the guide and director of the University of Colorado Health Outcomes Program, David R. West, Ph.D., notes that implementing health assessments takes work, thought, and structure. “You can’t assume because you’ve been through medical school or office management training that you can arrive on the scene with the right skill set and approaches.”

West and Fernald advocate for a team approach to health assessments. “Implementation works best when it’s a team effort involving everyone in your practice,” says Fernald. “Health assessments can provide a way for practitioners and patients to have more informed conversations.”

Awareness

During the past 5 years, Tracy Hofeditz, M.D., owner of Belmar Family Medicine in Lakewood, CO, has been implementing changes to transform his practice into a medical home model of care. “I needed to have the awareness,

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humility, and openmindedness to know that I wasn't doing things as well as I could have," says Hofeditz.

Health assessments can provide a way for practitioners and patients to have more informed conversations.

He explains: "Physicians, at least older physicians like myself, we weren't trained to use those kinds of tools to collect information from

patients. We're used to physical exams, history exams, diagnostic testing. That paradigm is shifting significantly to engage patients in a more direct way. The health assessment is a tool that allows us to engage the patient more by providing us with information to help them get better care."

Results

At the Rocky Ford Family Health Center in rural Colorado, Doug Miller, F.N.P., tries to make the most of health assessments. His health assessments include questions about smoking, depression, activity levels, daily living, and substance abuse. To encourage his patients to tell the truth, Miller tells them, "You're not going to hurt my feelings and you're not going to shock me."

This year, Miller plans to encourage people to take advantage of the

health assessments at the same time they come in for flu shots. All the information will be included in the patients' electronic health record. He says, "With the touch of a button, I can go in and see their answers, how much they smoke, if we addressed counseling, and more."

Miller knows that following through on the information isn't always enough. "A lot of people don't want to make the necessary changes despite the fact that you're there, willing to help," he explains. "But I'm always still glad I asked the questions. It's important for them to hear what I have to say, too."

Sometimes patients not only listen, they act. "We've been harping on a patient's smoking for years," he says. "Today, she told me that she's gone from two packs a day to a third a pack. I'm still smiling." ■ KM

Patient Safety and Quality of Care

Patient activation level affects likelihood of 30-day rehospitalization

Research suggests that a successful post-hospital care transition depends on the patient's ability to manage their discharge care plan upon returning home. The knowledge, skills, confidence, and inclination to assume responsibility for managing one's health and health care needs is often referred to as "patient activation." A new study found that patients with high activation levels had reduced likelihood of being rehospitalized within 30 days of hospital discharge.

The researchers used an eight-item version of the Patient Activation Measure (PAM) to categorize 695 general medical inpatients into four levels, based on their degree of patient activation. Compared with the most highly activated patients (PAM level 4), a higher rate of 30-day post-discharge hospitalization was observed for patients with lower activation levels (levels 1 and 2). Patients at level 3 were not statistically different from those at level 4. Level 1 patients also had higher ED use alone and hospital use alone compared with level 4 patients.

Hospital readmissions and emergency department visits in the 30 days after hospital discharge are common and costly. Other key risk factors for early unplanned hospital reuse include depression, low health literacy, male gender, advanced age, complex medication regimens, and taking certain high-risk medications. The researchers concluded that patients with a low level of activation are at risk for early unplanned hospital use. They suggest that hospitals can use the measurement of patient activation as a predictor of hospital reutilization in order to effectively target their efforts in preventing readmission. The study was supported in part by AHRQ (HS19771).

See "Patient activation and 30-day post-discharge hospital utilization," by Suzanne E. Mitchell, M.D., Paul M. Gardner, M.D., Ekaterina Sadikova, M.P.H., and others in the *Journal of General Internal Medicine* published online October 4, 2013. ■ MWS

Strained intensive care units result in shorter stays in the units before discharge to floor

A projected shortage of intensivists coupled with an aging population may create a significant strain on U.S. intensive care units (ICUs), with providers having to care for a greater number of sicker patients with increases in patient turnover. Some are concerned that this strain on capacity may result in patients being discharged from the ICU sooner than desired to open an ICU bed or may influence the quality of provider communication at the time of patient handoffs.

In order to determine whether increased capacity strain influences the outcomes of patients discharged from ICUs, the researchers studied the associations between three metrics of ICU capacity strain measured on the day of ICU discharge and the

risk-adjusted outcomes of 200,730 critically ill adults discharged from 155 U.S. ICUs to hospital floors from 2001 to 2008.

The three measures of ICU capacity strain included ICU census (the number of patients spending at least 2 hours in the ICU each day), ICU admissions (the proportion of the daily census comprised of new admissions), and ICU acuity (average predicted probability of death of other patients in the ICU at the time of a patient's ICU discharge). After adjusting for the severity-of-illness of the discharged patients, the authors found that all three capacity strain variables were inversely associated with ICU length of stay.

This suggests that increased strain results in providers discharging patients from the ICU more quickly. While this study found a very small increase in the risk of these patients being readmitted to the ICU, the good news is that no capacity strain variable was

directly associated with post-ICU discharge mortality, hospital length of stay, or patients' ultimate hospital discharge disposition.

According to the researchers, bed pressures appear to influence physicians' bed allocation decisions without adversely impacting important patient outcomes such as death or the probability of being discharged home from the hospital. Rather than confirm fears of critical care rationing, increases in capacity strain may increase provider efficiency by limiting the extension of low-value critical care. The study was supported in part by AHRQ (HS18406).

See "Outcomes among patients discharged from busy intensive care units," by Jason Wagner, M.D., M.S.H.P., Nicole B. Gabler, Ph.D., Sarah J. Ratcliffe, Ph.D., and others in the October 1, 2013 *Annals of Internal Medicine* 159(7), pp. 447-455. KB



Academic detailing helps reduce antibiotic prescribing for upper respiratory infections

Upper respiratory tract infections, such as bronchitis, are common diagnoses in primary care practices. Current evidence suggests that antibiotics have no or limited benefit as treatments for these infections in healthy patients. Despite this evidence, clinicians still prescribe antibiotics unnecessarily at a rate of over 50 percent. A recent study found that academic detailing (physicians visiting physicians to provide intensive education on the topic) resulted in decreased antibiotic prescribing for upper respiratory infections, but provider education mailings to patients did not.

Researchers examined two interventions that targeted clinicians with high antibiotic prescribing rates. The first intervention involved physician peer visits to

discuss the topic (also known as academic detailing). In the second intervention group, physicians sent their patients with an upper respiratory infection diagnosis in the past 2 years the brochure titled "Head & Chest Colds" along with an explanatory letter signed by the provider.

The academic detailing intervention resulted in a significant reduction in antibiotic prescribing, from 43 percent to 33 percent. No significant change, however, was observed with the patient mailing intervention. The researchers also found wide variation in the prevalence of antibiotic prescribing for different practices as well as different individuals within a practice. They suggest

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Academic detailing

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that other unmeasured provider factors may be at work in influencing providers' antibiotic prescribing habits. The study was supported in part by AHRQ (HS10399).

See "Effectiveness of interventions in reducing antibiotic use for upper respiratory infections in ambulatory care practices," by Christopher Vinnard, M.D., M.S.C.E., Darren R. Linkin, M.D., M.S.C.E., A. Russell Localio, Ph.D., and others in the February 2013 *Population Health Management* 16(1), pp. 22-27. ■ KB

Little improvement in antibiotic prescribing for adults visiting the doctor for sore throats

Adults with sore throats accounted for a significantly smaller proportion of visits to primary care providers (PCPs) in 2010 than in 1997 (4.3 percent vs. 7.5 percent of all primary care visits, respectively). In contrast, adults with sore throat made up 2.3 percent of walk-in patients at emergency departments in 2010, virtually unchanged from the 2.2 percent in 1997, according to a new study. Antibiotics are unlikely to be beneficial in most cases of throat inflammation in adults. Apart from the 10 percent of sore throats caused by group A streptococcal infections, few respond to antibiotics. Penicillin is recommended as first-line treatment for streptococcal sore throat. In contrast, the use of expensive, broad-spectrum antibiotics may increase the

prevalence of antibiotic-resistant bacteria and the cost of care.

Michael L. Barnett, M.D., and Jeffrey A. Linder, M.D., M.P.H., of Brigham and Women's Hospital in Boston previously reported that the proportion of adults seeking care for sore throat for whom antibiotics were prescribed fell from 80 percent to 70 percent around 1993.

Now they have found that the proportion of adult ambulatory care patients who received an antibiotic prescription for sore throat remained relatively stable during the period from 1997 through 2010, only falling to 60 percent of visits to PCPs by 2010. In addition, the use of penicillin remained stable during the period at 9 percent of the visits, while the use of azithromycin, an antibiotic that targets a broad spectrum of bacteria, increased from below a measurable threshold in 1997–1998 to 15 percent by 2010.

The findings were based on data from the National Ambulatory Medical Care Survey and the



National Hospital Ambulatory Medical Care Survey. The study was funded in part by AHRQ (HS18419).

More details are in "Antibiotic prescribing to adults with sore throat in the United States, 1997–2010," by Drs. Barnett and Linder, in the January 2014 *JAMA Internal Medicine* 174(1), pp. 138-140. *DIL*



Note: Only items marked with a single (*) asterisk are available from the AHRQ Clearinghouse. See the back cover of Research Activities for ordering information. Consult a reference librarian for information on obtaining copies of articles not marked with an asterisk.

Composite measure better for explaining hospital-level variation in bariatric surgery than procedure volume or complications

Using a statewide registry of patients who have undergone bariatric (weight loss) surgery, Justin B. Dimick, M.D., M.P.H., of the University of Michigan, Ann Arbor, and his colleagues found that a composite measure for laparoscopic gastric bypass surgery (LGBS) explained 89 percent of the variation in performance between hospitals. This contrasted with only 28 percent variation when hospitals were ranked solely on complication rates adjusted for patient risk factors.

Procedure-specific measures have become quite important in ranking hospital quality and safety, both as information for prospective patients and their families, and for payers (specifically, Medicare and Medicaid) looking to improve a hospital's quality and safety to reduce the costs of care. Previous studies have shown that bariatric surgery centers that received accreditation as centers of excellence, based on performing more than 125 bariatric procedures annually, did not have better outcomes than other hospitals. This led Dr. Dimick and his colleagues to look for better indicators of quality bariatric care.

Direct outcome measures, such as rates of serious problems and reoperation have been suggested, but vary

too much to serve as accurate performance measures. The Michigan researchers chose to test composite measures, which combine a number of different quality indicators into a single score, using specific weights for each indicator. When the researchers used their composite measure to rank hospitals doing LGBS as 3-star (top 230 percent), 2-star (middle 60 percent), or 1-star (lowest 20 percent), they found that 1-star hospitals had a twofold difference in the serious complication rate compared with 3-star hospitals. In contrast, the differences in serious complication rates were much smaller if hospitals were ranked using either serious complications (1.6-fold difference) or hospital volume (0.85-fold). The findings were based on data from the Michigan Bariatric Surgery Collaborative for the years 2008 and 2009. The study was funded in part by AHRQ (HS17765).

More details are in "Composite measures for profiling hospitals on bariatric surgery performance," by Dr. Dimick, Nancy J. Birkmeyer, Ph.D., Jonathan F. Finks, M.D., and others in the online October 16, 2013 *JAMA Surgery*. ■ DIL

Whether patients have dementia does not greatly influence the quality of their hospice care

Hospice patients with Alzheimer's disease and other types of dementia find it more difficult to communicate with providers and caregivers than the terminal cancer patients for which hospice care was originally conceived. However, this difference does not appear to affect the overall quality of their care, according to a new study. This is important because the proportion of hospice patients with Alzheimer's disease or other forms of dementia has been increasing. Jennifer S. Albrecht, Ph.D., of the University of Maryland School of Pharmacy, Baltimore, and Jon P. Furuno, Ph.D., of the Oregon Health & Science University College of Pharmacy, Portland, and colleagues found that the majority of quality-of-care measures for

individuals receiving hospice care differed little between patients with and without dementia.

Nonetheless, hospice patients with dementia were 2.6 times more likely to receive tube feeding than other hospice patients, despite findings that tube feeding is not associated with longer survival, better nutrition, fewer pressure ulcers, or reduced risk of aspiration pneumonia in individuals with advanced dementia.

In addition, hospice patients with dementia were 40 percent less likely to have a report of pain at last assessment than other hospice patients. Among individuals with dementia, observation of the patient was used in only 54 percent of cases to assess pain. Based on their findings, the researchers suggest

that the use of feeding tubes and assessment of pain by validated methods could serve as dementia-specific quality measures for hospices. Their findings were based on analysis of quality measures for 4,711 individuals (prevalence of dementia 9.5 percent) included in the 2007 National Home and Hospice Care Survey who were discharged to home care or died. The study was funded in part by AHRQ (HS21068, HS20970).

More details are in "Quality of hospice care for individuals with dementia," by Dr. Albrecht, Ann L. Gruber-Baldini, Ph.D., Erik K. Fromme, M.D., and others in *Journal of the American Geriatrics Society* 61(7), pp. 1060-1064, 2013.

■ DIL

“Bounceback” admissions not linked to emergency department crowding

Emergency department (ED) crowding, a growing problem in the United States, has been associated with poor quality of care and worse outcomes. Another potential adverse effect of ED crowding is subsequent hospital admission after initial ED discharge, sometimes referred to as “bounceback” admissions. However, a new study found that ED crowding was not significantly associated with increased bounceback admissions during the subsequent 7 days. Instead, bounceback admissions were associated, even after controlling for crowding and other factors, with increased age, male gender, minority ethnicity, and public insurance.

ED crowding was measured by “ambulance diversion,” which occurs when ED staff can no longer safely care for new patients and ambulances are diverted to other facilities. Ambulance diversion is one of the few consistent measures of crowding available and is commonly used by prehospital and regulatory agencies to monitor crowding. The researchers used public data files on all outpatient and inpatient ED visits in California during 2007.

They concluded that while it may be useful to track bounceback admissions for other purposes, its application as a quality indicator and linking it to



incentives such as pay for performance warrants careful evaluation before widespread implementation. The study was supported in part by AHRQ (HS18098).

See “Is emergency department crowding associated with increased “bounceback” admissions?” by Renee Y. Hsia, M.D., Steven M. Asch, M.D., Robert E. Weiss, Ph.D., and others in the November 2013 *Medical Care* 51(11), pp. 1008-1014. ■ MWS

Study documents racial disparity in duration of patient visits to the emergency department

Emergency department (ED) length-of-stay is generally perceived as an important indicator of quality of ED care, since longer stays may mean that patients wait longer to see ED physicians and to obtain critical treatments and test results. A new study reveals racial disparity in duration of ED visits. The researchers analyzed data on 4.3 million ED visits in three States (Arizona, Massachusetts, Utah) during 2008. The mean duration for a routine ED visit was 238 minutes at teaching hospitals and 175 minutes at non-teaching hospitals.

The mean duration of routine ED visits for black and Asian patients was shorter than white patients by 10.0 percent and 3.4 percent, respectively, at teaching hospitals and longer by 3.6 percent and 13.8 percent, respectively, at non-teaching hospitals. Hispanic patients, when compared to white patients, experienced no disparity in duration of ED visits at teaching hospitals, but at non-teaching hospitals their mean duration of stay was 8.7 percent longer. The researchers also found that female

patients generally experienced longer ED stays than male patients.

Lack of health insurance did not have a significant direct association with longer mean duration of ED visits. The mean duration of ED visits was substantially longer at non-profit hospitals when compared to for-profit hospitals, and at level I trauma centers when compared to other trauma centers or non-trauma centers. The researchers believe that their findings may be used by decisionmakers in both public and

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Racial disparities

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private health care arenas to improve the timeliness of care provided in the ED and to understand the factors causing the racial disparity.

See “Racial disparity in duration of patient visits to the emergency department: Teaching versus non-teaching hospitals,” by Zeynal Karaca, Ph.D., and Herbert S. Wong, Ph.D. in the September 2013 *Western Journal of Emergency*

Medicine 14(5), pp. 529-541. Reprints (AHRQ Publication No. 14-R008) are available from AHRQ.* ■ MWS

Primary Care

Primary care malpractice cases are more difficult to defend

Often ignored in the past, focus on patient safety and malpractice risk on outpatient care is gaining attention. In fact, malpractice insurers now report the frequency and dollar amounts of settled outpatient malpractice claims exceed those of inpatient claims. AHRQ recently awarded the Commonwealth of Massachusetts money to fund the Proactive Reduction of Outpatient Malpractice-Improving Safety, Efficiency, and Satisfaction (PROMISES) Project. The goal is to identify practice and system issues in malpractice cases that can improve patient safety and interventions.

During a 5-year review period from 2005 to 2009, researchers reviewed 7,224 malpractice claims from 2 malpractice insurance carriers. A total of 7.7 percent came from primary care practices. The majority were related to diagnosis (72.1 percent), followed by 12.3 percent involving medications, and 7.4 percent involving other medical treatment. The primary diagnoses involved in these malpractice suits were cancer, heart disease, blood vessel disease, infections,

and stroke. The researchers found that 35.2 percent of ambulatory cases were more likely to be settled compared to 20.5 percent of non-general medical malpractice claims. These cases were also more likely to result in a verdict for the plaintiff than non-general medical practice claims (1.6 percent vs. 0.9 percent).

According to the researchers, malpractice cases remain a burden for primary care physicians, particularly when it comes to failure to diagnose various cancers. Interventions are needed to target primary care practices to alert them to vulnerabilities and the potential for malpractice claims. The study was supported by AHRQ (T32 HS19508).

See “Primary care closed claims experience of Massachusetts malpractice insurers,” by Gordon D. Schiff, M.D., Ann Louise Puopolo, R.N., B.S.N., Anne Huben-Hearney, R.N., B.S.N., M.P.A., and others in the September 30, 2013 *JAMA Internal Medicine* E1-E6. KB



Changes are needed to improve primary care counseling about medication-induced birth defects

An estimated 1 in 6 women each year are given a prescription for a drug that can cause birth defects. Since half of all pregnancies are unplanned, it is important that physicians inform these women of these potential risks and encourage contraception. Birth defects are most likely to take place early in pregnancy before the woman is aware that she is pregnant.

Clinical decision support (CDS) within the electronic medical record (EMR) should increase the likelihood that such women are counseled about these drug risks. However, a new study finds that even with CDS, 43 percent of women prescribed these medications do not receive any counseling about the potential for birth defects.

The study examined practices at three suburban, community-based family practices and one urban, academic general internal medicine practice. The 41 physicians at these clinics received CDS that was developed to increase counseling

about the risks of birth defects from certain medications. Alerts were triggered once per visit if a risky medication was prescribed. During the last 9 months of the study, these alerts were deactivated for half of the physicians participating in the study. A total of 10,029 female patients of reproductive age visited the study physicians. Of these, 19 percent agreed to participate in the study and completed surveys. After exclusions, 801 surveys were included in the study analysis.

Among the women surveyed, 23 percent were prescribed drugs with the potential to cause birth defects by physicians receiving a CDS alert. Another 3 percent of women were prescribed such drugs when the physician was no longer receiving alerts. Some of the most commonly prescribed risky drugs were benzodiazepines, antimicrobials, and various blood pressure and cardiovascular medications. Women who received these medications tended to be older and less educated than women who received safer medications.

Women more likely to report counseling were seeing a female physician. Those least likely to report counseling received an angiotensin-converting enzyme (ACE) inhibitor or angiotensin

receptor blockers (medications used for blood pressure). Women who were pregnant or trying to conceive were not more likely to report counseling.

However, women who did receive counseling were more likely to use contraception after being prescribed a medication considered risky than women who received no counseling. According to the researchers, more research is needed to improve CDS in this area and to develop other interventions that provide the proper information to these women. The study was supported in part by AHRQ (HS17093).

See “Counseling about medication-induced birth defects with clinical decision support in primary care,” by Eleanor Bimla Schwarz, M.D., M.S., Sara M. Parisi, M.S., M.P.H., Steven M. Handler, M.D., Ph.D., and others in the *Journal of Women's Health* 22(10), pp. 817-824, 2013. KB



Neighborhood food outlets not linked to dietary intake or obesity

The relationship between neighborhood food environments and obesity occupies a central role in policy debates, with some suggesting that neighborhood “food deserts,” where access to healthful and affordable food is limited, may be linked to obesity. Yet the evidence is not clear on whether promoting or discouraging a particular type of food outlet is an effective approach to promote healthful dietary behaviors and healthy weight.

The study authors examined the association between number and type of neighborhood food outlets and dietary intake and body mass index (BMI) measures among California adults. Their analysis of data from 97,678 California adults found that food outlets within walking distance (less than 1 mile) were not strongly associated with dietary intake, BMI, or probabilities of a BMI of 25.0 (overweight) or a BMI of 30.0 or more (obese).

More fast food restaurants within 3.0 miles of a resident’s home predicted increased frequency of

consuming fried potatoes, soft drinks, and fast food, decreased frequency of consuming vegetables, and a greater probability of a BMI of 25.0 or more. By contrast, the number of supermarkets within 3 miles was largely not associated with dietary intake, whereas more supermarkets within 1.0, 1.5, and 3.0 mile buffers predicted lower BMI. A likely reason for the null finding is that shopping patterns are weakly related, if at all, to neighborhoods in California because of access to motorized transportation. This study was supported in part by AHRQ (T32 HS00046).

See “Neighborhood food outlets, diet, and obesity among California adults, 2007 and 2009,” by Aiko Hattori, Ph.D., Ruopeng An, M.P.P., and Roland Sturm, Ph.D. in the March 14, 2013 *Preventing Chronic Disease: Public Health Research, Practice, and Policy* 10, published online. ■ MWS



Start methotrexate as first-line therapy for patients with early, poor-prognosis rheumatoid arthritis

Most evidence-based guidelines call for methotrexate (MTX) by itself as first-line therapy for rheumatoid arthritis. Recent trials, however, suggest that combination therapy may be better. Yet, a new study concludes that methotrexate should be first-line therapy for patients with early rheumatoid arthritis even if they have poor prognostic features. The researchers compared the results of initial MTX monotherapy with the option to step up to combination therapy with immediate initial combination therapy in RA patients with an early poor prognosis. The

results validated starting MTX monotherapy in these patients, since 28 percent did not need a step up to combination therapy, and those who did fared as well as those started on combinations from the outset.

A total of 755 patients with early, poor-prognosis RA participated in the Treatment of Early Rheumatoid Arthritis trial. Each was randomized to receive MTX therapy alone or 1 of 2 different combination therapies: MTX and etanercept or MTX, sulfasalazine, and hydroxychloroquine. At 24

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Rheumatoid arthritis

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weeks, MTX monotherapy patients could be stepped up to combination therapy if their disease was still active.

From week 48 to 102, disease activity scores, pain assessment, and radiographic outcomes in patients started on MTX monotherapy and then stepped up to combination therapy were indistinguishable from those in patients who immediately started on combination therapy.

Within the MTX group, 28 percent did not require any step up to combination therapy. Monotherapy patients had less radiographic progression at week 102 than did patients receiving immediate combination therapy. The researchers point out the cost-saving measures associated with starting MTX alone. In addition, these results challenge recommendations by the American College of Rheumatology, which calls for this patient population to receive combination therapy at initial

diagnosis. These new findings will need to be considered when the guidelines are revised. The study was supported in part by AHRQ (HS18517).

See “Validation of the methotrexate-first strategy in patients with early, poor-prognosis rheumatoid arthritis,” by James R. O’Dell, M.D., Jeffrey R. Curtis, M.D., M.P.H., Ted R. Mikuls, M.D., M.S.P.H., and others in *Arthritis & Rheumatism* 65(8), pp. 1985-1994, 2013. ■ KB

No therapy better than another for advanced-stage chronic lymphocytic leukemia

As the most commonly diagnosed lymphoid malignancy, chronic lymphocytic leukemia (CLL) develops in older patients. Since CLL is incurable, therapies are used to control disease progression and complications. Clinicians can select from a wide variety of treatment options, from single agents to combination-based chemotherapies. A recent meta-analysis compared studies of various first-line therapies to determine their efficacy and overall survival. No evidence was found that any treatment was better than another. In fact, newer therapies did not show a survival advantage over chlorambucil monotherapy introduced in the 1960s.

The study consisted of a 30-year overview of 25 randomized controlled trials evaluating 10 treatments for CLL in approximately 7,800 patients. In addition to single-agent chlorambucil, other therapies evaluated were single-agent fludarabine, cladribine, alemtuzumab, and bendamustine. Combination treatments were CHOP (cyclophosphamide, doxorubicin, vincristine, and prednisone) or similar conventional combinations, and cyclophosphamide or similar conventional chemotherapies combined with fludarabine or cladribine. There were also two other triple-therapy combinations evaluated: fludarabine, cyclophosphamide, and rituximab and pentostatin,

cyclophosphamide, and rituximab. Patients were relatively young, in their late 50s and 60s, and were considered uncomplicated cases of CLL.

After evaluating combined direct and indirect data, the researchers found that no one single treatment option was significantly better than others when it came to overall survival. Bendamustine and fludarabine-rituximab-based chemotherapy, two newer approaches, had longer progression-free survival compared to chlorambucil. While effective, neither treatment had a probability of more than 95 percent of being most effective. These differences were found in relatively young, uncomplicated patients, and the evidence for each treatment contrast was from three or fewer small comparison trials. According to the researchers, chlorambucil-based regimens cost less, are less toxic, and are recommended by current practice guidelines. They still remain a realistic first-line choice for appropriate patients. The study was supported in part by AHRQ (HS18574).

See “Comparative efficacy of first-line therapies for advanced-stage chronic lymphocytic leukemia: A multiple-treatment meta-analysis,” by Teruhiko Terasawa, M.D., Ph.D., Nikolaos A. Trikalinos, M.D., Benjamin Djulbegovic, M.D., Ph.D., and Thomas A. Trikalinos, M.D., Ph.D., in *Cancer Treatment Reviews* 39, pp. 340-349, 2013. KB



Little difference in effectiveness of drugs to prevent episodic migraine in adults

All four drugs approved by the U.S. Food and Drug Administration for prevention of adult episodic migraine (the anti-epileptics, divalproex and topiramate, and the beta-blockers, timolol and propranolol) were found effective in a review of studies on the medications. These drugs were found to be better than placebo in reducing monthly migraine frequency by at least 50 percent in 200–400 patients per 1,000 treated, according to a review of 215 randomized controlled trials (RCTs) and 76 nonrandomized studies. However, none of the approved drugs was found to be significantly more beneficial than the others.

Migraine headaches affect 17 percent of women and 6 percent of men in the United States and fall into two classes—episodic migraines, defined as lasting less than 15 days per month, and chronic migraines that last at least 15 days per month for at least 3 months. Even episodic migraines can cause serious lifestyle limitations, requiring preventive medication. In addition to studies of the approved drugs, single RCTs found that the off-label beta-blockers acebutolol,

atenolol, and nadolol had comparable effectiveness—as did the angiotensin-inhibiting drugs captopril, lisinopril, and candesartan, according to the researchers.

Further indirect comparison suggested that the off-label angiotensin-inhibiting drug candesartan was more likely to produce an effective response than any of the approved drugs. Also, among the off-label drug classes, angiotensin-inhibiting drugs were nearly three times more likely to be effective than antidepressants or off-label anti-epileptics, and nearly four times more likely to be effective than ergot alkaloids.

From the 159 RCTs reporting adverse effects for the drugs tested, the approved drugs topiramate and propranolol produced adverse effects leading to treatment discontinuance more often than



placebo, as did the antidepressant amitriptyline. Indirect network meta-analysis suggested that off-label beta-blockers and off-label angiotensin-inhibiting drugs were least likely to result in adverse effects leading to discontinuing treatment. The study was funded in part by AHRQ (Contract No. 290-01-0012).

More details are in “Preventive pharmacologic treatments for episodic migraine in adults,” by Tatyana A. Shamiliyan, M.D., M.S., Jae-Young Choi, Ph.D., Rema Ramakrishnan, M.P.H., and others in the September 2013 *Journal of General Internal Medicine* 28(9), pp. 1225-1237. ■ DIL

Older patients and caregivers differ in their assessments of the quality of chronic illness care

There is a growing recognition of the need to improve the quality of chronic illness care. Caregivers who often accompany patients to physician office visits are well-positioned to provide additional information on the quality of patients’ chronic illness care. However, their perspective has rarely been studied. Typically, caregivers are asked to evaluate the quality of patients’ care as a proxy respondent when a patient is unable to respond. A new study suggests that older patients with chronic illnesses and their caregivers can differ in their assessments of the patient’s quality of care.

Researchers compared patients’ self reports and their caregivers’ independent ratings of the quality of chronic illness care, and found that the agreement between patients and caregivers was low. Patients who were following a more complex treatment plan (i.e., taking many medications) or having more difficulty following a treatment plan were less likely to agree with their caregiver about the quality of care. Patient-caregiver dyads had greater agreement on objective questions (such as “when I/patient received care for my/his/her

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Chronic illness care

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chronic illness over the past 6 months, I/patient was given a copy of my/his/her/treatment plan” than on subjective questions (such as “when I/ patient received care for my/his/her chronic illness over the past 6 months, I/patient was satisfied that my/his/her care was well organized”).

The researchers believe that for some patient-caregiver dyads, the caregiver’s report may be more accurate than the patient’s report. This may be particularly true for caregivers who are providing substantial support in managing the patient’s health care or for patients with cognitive impairment.

Included in the study were 247 patient-caregiver dyads. All patients were enrolled in the Guided Care intervention, which was designed to enhance the quality of health care for high-risk older adults by integrating a specially trained registered nurse into primary care practices. Quality of care was assessed using the Patient Assessment of Chronic Illness Care, a validated measure of patients’ perceptions of the quality of chronic illness care. This study was supported, in part, by AHRQ (HS17650, HS14580).

See “Do older patients and their family caregivers agree about the quality of chronic illness care?” by Erin R. Giovannetti, Ph.D., Lisa Reider, M.H.S., Jennifer L. Wolf, Ph.D., and others in the *International Journal for Quality in Health Care* 25(5), pp. 515-524, 2013. ■
MWS

Prevention

AHRQ researchers find persistent differences in preventive services use within the U.S. population

Large differences in adult use of preventive services persisted from 1996 through 2008 across population groups defined by poverty, race/ethnicity, insurance coverage, and geography. AHRQ researchers, Salam Abdus, Ph.D., and Thomas M. Selden, Ph.D., analyzed data from the AHRQ Medical Expenditure Panel Survey for 1996/1998, 2002/2003, and 2007/2008 to examine trends in five preventive services: general checkups, blood pressure screening, blood cholesterol screening, Pap smears, and mammograms.

Among the population of nonelderly adults (ages 19–64 years), the proportion of the population having a general checkup increased 1.1 percentage points from 1996/1998 to 2007/2008; the proportion of those with blood cholesterol

screening within the prior 5 years increased by 8.2 percentage points. In contrast, the percentage of the population having blood pressure screening or mammograms (among women) increased modestly between the first pair of time points, but remained essentially constant thereafter. Finally, the percentage of women having Pap smears increased modestly (by 2.1 percentage points) from 1996/1998 to 2002/2003, but decreased by about a percentage point subsequently to the end of the study period.

When comparing poor (below the Federal poverty level) and relatively high-income groups and white versus black or Hispanic groups, there were few significant changes over time. The same pattern was seen when comparing adults with

and without coverage, except for blood cholesterol screening, where a significant narrowing of the gap between the privately insured and the uninsured occurred over the entire period (5.3 percentage points for uninsured adults). Regional differences persisted or widened over the study period. The researchers conclude that a key challenge facing the Affordable Care Act will be to address persistent differences in preventive services use.

More details are in “Preventive services for adults: How have differences across subgroups changed over the past decade?” by Drs. Abdus and Selden, in the November 2013 *Medical Care* 51(11), pp. 999-1007. ■ DIL

Nursing home residents whose primary care providers devote less time to nursing home care are at higher risk for potentially avoidable hospitalizations

Nursing home (NH) residents are at high risk of avoidable emergency department (ED) visits and hospitalizations. One reason is lack of availability of primary care providers. For the 20 percent of primary care physicians who practice in NHs, NH care accounts for less than 10 percent of their overall work time. Studies in Europe and the United States have found that NHs whose physicians or advance practice nurses devote full time to NH residents have lower rates of hospitalizations and ED visits. A new U.S. study suggests the same. The researchers assessed whether NH residents whose primary care providers (PCPs)—whether physician, physician assistant, or advanced practice nurse—spent most of their clinical effort at NHs would have fewer avoidable hospitalizations and lower Medicare costs.

They found that residents whose PCPs devoted less than 5 percent of their clinical effort to NH care were at 52 percent higher risk of potentially avoidable hospitalizations than those whose PCPs devoted 85 percent or more of their clinical effort to NHs. Those residents also had \$2,179 higher annual Medicare spending, controlling for PCP discipline.

The researchers conclude that the effort that providers devote to the NH setting is associated with risk of potential avoidable hospitalization regardless of the discipline of the provider. This result could guide stakeholders in making more informed decisions about cost-effective care for long-term NH residents. This study was supported in part by AHRQ (HS20642).

See “Association between proportion of provider clinical effort in nursing homes and potentially avoidable hospitalizations and medical costs of nursing home residents,” by Yong-Fang Kuo, Ph.D., Mukaila A. Raji, M.D., and James S. Goodwin, M.D., in the *Journal of the American Geriatric Society* 61, pp. 1750-1757, 2013. *MWS*



Lack of insurance and poorer health create double jeopardy for blacks and Hispanics

Blacks and Hispanics are not only more likely to be uninsured than whites, but they also report worse health at most ages compared to whites. This leads to a situation where minorities face living in health insurance “double jeopardy:” being uninsured while also in poorer health and, therefore, at higher risk of needing medical care, concludes a new study by AHRQ researcher, James B. Kirby, Ph.D., and Toshiko

Kaneda, Ph.D., of the Population Reference Bureau. The rates of disability and ill health begin rising among the near-elderly before age sixty-five. The study found that the black-white difference in the proportion of uninsured was at its widest in the 55–59 age group (12 percent) and the Hispanic-white difference was near its widest in the 40–45 age group (29 percent), both ages when medical needs are likely

rising. This may translate into more years spent in insurance double jeopardy.

When the researchers focused on the expected years of life spent in the double jeopardy of being uninsured and in poorer health, they estimated that the expected years of life spent in double jeopardy was

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Lack of insurance

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11 years for Hispanics, compared to 6 years for blacks and 4 years for whites.

Overall, the researchers found that Americans can expect to live 13 years without health insurance coverage, which makes up 17 percent of their total life expectancy. But the racial and ethnic disparities are stark: Hispanics can expect to live 24 years without health insurance coverage compared to 14 years for blacks and 10 years for whites. There are also large

differences in years spent in the other insurance categories. Both blacks and Hispanics can expect to live well over twice as many years covered by Medicaid compared to whites (15 and 13 years vs. 6 years).

The researchers suggest that the life expectancy measures used in their study have the potential to reframe the discussion of disparities toward a focus on disadvantage over a lifetime. The findings were based on mortality data for 2008 from life tables published by the National Center for Health Statistics and self-reported insurance and

health status for 2008 from AHRQ's Medical Expenditure Panel Survey, a series of nationally representative, longitudinal surveys that collect information for the U.S. civilian, noninstitutionalized population.

See "Double jeopardy measure suggests blacks and Hispanics face more severe disparities than previously indicated," by James B. Kirby, Ph.D., and Toshiko Kaneda, Ph.D., in *Health Affairs* 32(10), pp. 1766-1772, 2013. Reprints (AHRQ Publication No. 14-R009) are available from AHRQ.* ■ MWS

High unintended pregnancy rates among Hispanic women linked to poor understanding of contraception and pregnancy

Hispanics have the highest birth rate and highest unintended birth rate in the United States. In fact, data from 2006 show that Hispanics have more than double the unintended birth rate of non-Hispanic whites, 45 versus 18 per 1,000 births.

A new study finds that while the overwhelming majority of Hispanic women have had a pregnancy, almost 70 percent of them have had at least one unintended pregnancy and over half of pregnancies (51 percent) to Hispanic women are unintended. Eighty-one percent of Hispanic teen pregnancies were identified as unintended, according to a team of researchers from Northwestern University.

The most common reason for unintended pregnancy preceded by contraception was "improper use" (45 percent) and among pregnancies without use, the most common response (37 percent) was "I did not think I could get pregnant."

In their discussion of these findings, the researchers cite earlier studies finding that Hispanic women have less knowledge about contraception when compared

to non-Hispanics. Reasons why Hispanic women have less accurate knowledge about both contraception and reproduction may be reflected in the context, quality, and the quantity of counseling they receive both in the community and in the clinical setting.

To provide the most recent, nationally representative description of pregnancy, childbearing, and contraception for Hispanic females aged 15–44, researchers used the 2006–2010 National Survey of Family Growth. This survey involved in-depth interviews of 12,779 women, of whom 2,723 self-reported their ethnicity as Hispanic. The researchers conclude that there is a continuing need to better educate and empower Hispanic women and girls about their reproductive capacity and their contraceptive practices. This study was supported by AHRQ (T32 HS000078, HS21141).

See "Pregnancy intention and use of contraception among Hispanic women in the United States: Data from the National Survey of Family Growth, 2006–2010," by Lisa M. Masinter, M.D., Joe Feinglass, Ph.D., and Melissa A. Simon, Ph.D. in the *Journal of Women's Health* 22(10), pp. 862-870, 2013. MWS



Disparities still persist in surgical outcomes of low-income patients

Over the past 20 years, major strides have been made in improving patient safety and surgical outcomes. Postoperative mortality has decreased for a number of high-risk cardiovascular procedures and cancer-related surgeries, there are fewer failures to rescue from surgical complications, and a number of postoperative complications have improved. Yet, disparities in surgical outcomes continue for low-income patients, concludes a new study. AHRQ researcher Roxanne M. Andrews, Ph.D., and Mehwish Qasim, a doctoral candidate of the University of Iowa, found that patients living in low-income areas had worse surgical outcomes than residents of high-income areas on 9 of 12 measures, and lower rates of postoperative hemorrhage and hematoma.

The researchers used AHRQ's Healthcare Cost and Utilization

Project Nationwide Inpatient Sample data for 2000 and 2009 to examine differences between patients from low- and high-income communities on 12 surgical outcome measures. They examined in-hospital mortality rates for patients undergoing one of eight surgical procedures: abdominal aortic aneurysm repair, heart bypass graft, carotid endarterectomy, craniotomy, esophageal cancer resection, hip replacement, pancreatic cancer resection, and coronary artery stenting. Nearly all postsurgical mortality measures improved for all patients from 2000 to 2009. Still, low-income patients experienced worse outcomes for most surgical mortality measures.

In 2000 and 2009, patients living in low-income communities scored significantly worse on six of the eight mortality measures. The only two exceptions were carotid endarterectomy and esophageal

resection. In the case of hip replacement, low-income patients had a mortality rate 26 percent higher than patients from high-income areas. During the study period, overall mortality was reduced by at least 10 percent for each measure. For both 2000 and 2009, the low-income group had significantly higher rates of three of the four post-surgical complications examined: death following treatable complication, postoperative respiratory failure, and postoperative wound dehiscence (where the wound ruptures along the suture line).

See “Despite overall improvement in surgical outcomes since 2000, income-related disparities persist,” by Mr. Qasim and Dr. Andrews in the October 2013 *Health Affairs* 32(10), pp. 1773-1780. Reprints (AHRQ Publication No 14-R011) are available from AHRQ.* ■ KB

Transgendered patients with HIV have similar care retention rates as non-transgendered patients

Transgendered individuals with HIV are a unique population when it comes to treatment. They often suffer from discrimination and social isolation. In addition, they and their clinicians may worry about drug-drug interactions between hormone therapy and antiretroviral therapy (ART). As a result, adherence to ART may be problematic. However, a new study offers optimistic findings for this population. AHRQ researcher John A. Fleishman, Ph.D., and colleagues found that, possibly due to advances in ART regimens, transgendered patients were as likely as nontransgender patients to have made two or more primary care visits 90 days or more apart in a calendar year (care retention). In addition, the use of ART was similar for both transgender and nontransgender patients.

The researchers retrospectively studied adults receiving care at 13 HIV clinics across the country participating in the HIV Research Network. They looked at care

retention, use of ART, and HIV suppression to less than 400 copies/mL during 1 year. Out of 36,845 patients during the 10-year study period, 285 identified themselves as transgender.

Those who identified as transgender were more likely to be young, Hispanic, and men who had sex with men, compared with nontransgender patients. Retention in care was achieved in 80 percent of patient-years compared to 81 percent for nontransgender men and 81 percent for women. There were similar results for receiving ART: 76 percent for transgender patients compared to 77 percent for nontransgender men and 73 percent for women. The same similarity was found when it came to achieving HIV suppression: 68 percent of transgender patients compared to 69 percent of nontransgender men and 63 percent for women. According to the researchers, advances in HIV therapy, including

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Transgendered patients

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new drug combinations and simplified dosing, have narrowed the treatment gap and improved health equity in the transgender HIV population.

See “Retention in care and health outcomes of transgender persons living with HIV,” by Baligh R.

Yehia, M.D., M.P.P., M.S.H.P., Dr. Fleishman, Richard D. Moore, M.D., M.H.S., and Kelly A. Gebo, M.D., M.P.H., in the September 1, 2013 *Clinical Infectious Diseases* 57, pp. 774-776. Reprints (AHRQ Publication No. 14-R012) are available from AHRQ.* ■ KB



More than two-thirds of seniors with Medicare purchased cardiovascular drugs in 2010

More than two-thirds of senior Americans with Medicare coverage purchased cardiovascular drugs such as calcium channel blockers and

diuretics in 2010. (Source: AHRQ Medical Expenditure Panel Survey Statistical Brief #411: *Expenditures for the Top Five Therapeutic Classes of Outpatient Prescription Drugs, Medicare Beneficiaries, Age 65 and Older, U.S. Civilian Noninstitutionalized Population, 2010* available at <http://go.usa.gov/B6gY>.)

Nearly 4 million babies born in U.S. hospitals in 2011

In 2011, 3.8 million babies were born in U.S. hospitals, which is 436,000 fewer—or a decrease of 10.3 percent—compared with 2008. (Source: AHRQ Health Care Cost and Utilization Project

Statistical Brief #163: *Hospital Stays for Newborns, 2011*, available at <http://go.usa.gov/B6gB>.)

Prescription drugs represented more than a fifth of all medical expenditures in 2010

Prescription drugs represented 21.4 percent of all medical expenditures in 2010. (Source: AHRQ Medical Expenditure Panel Survey Statistical Brief #413: *Prescription Drug Expenditures in the 10 Largest States, 2010*, available at <http://go.usa.gov/B6gQ>.)



Women with high insurance copays are less likely to use intrauterine devices for contraception

In August 2012, a mandate by the U.S. Department of Health and Human Services allowed women to receive contraception without cost-sharing under most private health insurance plans. Prior to this legislation, use of intrauterine devices (IUDs) was low among privately insured women in 2011. High insurance copays may have been one barrier to higher rates of use, suggests a new study. The researchers analyzed 2011 data from a database that includes more than 50 million non-retired employees enrolled in commercial employer health insurance. The study included 1,682,425 women aged 14 to 45 years with insurance coverage who used IUDs or oral contraceptives during the year. All

were covered by their employer health insurance plans.

Overall, 5.5 percent of women began using an IUD in 2011. However, initiation of IUDs declined as costsharing increased. Women in the highest costsharing plans were 35 percent less likely to get IUDs compared to women in the lowest costsharing plans (4.4 percent vs. 6.7 percent). Co-pays for IUD initiation ranged from an average of \$3 in plans in the lowest quartile of costsharing to an average of \$162 in plans in the highest quartile. This compares to an average of \$27 to \$31 per month for branded oral contraceptives and \$9 to \$12 for generic oral contraceptives. Women younger than 20 years were also less likely to

receive an IUD compared to women aged 20 to 34 years.

The researchers anticipate that the elimination of costsharing among plans under the Affordable Care Act will increase the use of highly effective long-acting reversible contraception such as IUDs and reduce rates of unintended pregnancy. The study was supported in part by AHRQ (HS15491).

See “The impact of out-of-pocket costs on the use of intrauterine contraception among women with employer-sponsored insurance,” by Lydia E. Pace, M.D., M.P.H., Stacie B. Dusetzina, Ph.D., A. Mark Fendrick, M.D., and others in the November 2013 *Medical Care* 51(11), pp. 959-963. ■ KB

Oral contraceptive use decreases risk of colorectal and endometrial cancer but slightly increases risk of breast cancers

Women who took an oral contraceptive (OC) may lower their risk of colorectal and endometrial cancers but may be slightly more likely to develop breast cancer than nonusers according to new analyses of combined data from a number of clinical studies.

Because OCs are the most common form of contraception that is both effective and reversible, they have been studied for their serious potential risks—such as venous thromboembolism, heart attack, stroke, and cancer, as well as their benefits.

In a systematic review of studies, Jennifer M. Gierisch, Ph.D., M.P.H., of the Duke University School of Medicine, and her colleagues synthesized 15 case-control studies and 8 cohort studies, finding an 8 percent increased risk of breast cancer in women with a history of any OC use compared with nonusers. In addition, breast cancer risk was higher with more recent use of OCs. Twelve studies assessed the risk of cervical



cancer associated with OC use; however, only 3 studies focused on women positive for human papilloma virus (HPV), a cause of cervical cancer. The evidence was inconclusive about the risk of ever use of an OC on

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Oral contraceptives

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cervical cancer incidence in HPV-positive women. OC use reduced the risk of colorectal cancer by a significant 14 percent (based on 11 studies) and the risk of endometrial cancer by a significant 43 percent (based on 9 studies).

This study highlights some of the tradeoffs about nonreproductive outcomes that patients and providers need to consider with the use of oral contraceptives: increased risk for some cancers (breast and perhaps cervical) but decreased risk for others (colorectal and endometrial). Estimating the overall balance of benefit

and harm is difficult. Timing of the outcomes affected by oral contraceptive use is variable—some risks and benefits are seen only during use (thromboembolic events), whereas others (cancers) occur in the future. The study was funded in part by AHRQ (Contract No. 290-07-10066).

More details are in “Oral contraceptive use and risk of breast, cervical, colorectal, and endometrial cancers: A systematic review,” by Dr. Gierisch, Remy R. Coeytaux, M.D., Ph.D., Racheal Peragallo Urrutia, M.D., and others in the November 1, 2013 *Cancer Epidemiology, Biomarkers, and Prevention* 22(11), pp. 1931-1943. ■ *DIL*

Polycystic ovary syndrome increases risk of blood clots

Polycystic ovary syndrome (PCOS) affects as many as 15 percent of women of reproductive age. Treatment consists of combination oral contraceptive therapy. Oral contraceptives, however, are known to increase the risk for blood clot (venous thromboembolism) and cardiovascular disease in women without PCOS. A recent study found a twofold increased risk of blood clots in women with PCOS taking combined oral contraceptives. Even women with PCOS not taking oral contraceptives still had a 1.5-fold increased risk of venous thromboembolism.

Using managed care claims, the researchers identified 43,506 women with PCOS age 18 to 46. All were taking combined oral contraceptives. This group

was matched to a second group of 43,506 women without PCOS who were taking combined oral contraceptives and had similar baseline coexisting conditions. Another random sample of 2 million women not taking combined oral contraceptives was used to determine the prevalence of PCOS and the risk for blood clots.

The incidence of venous thromboembolism in women with PCOS taking combined oral contraceptives was 23.7 per 10,000 person-years. Among the matched control women taking combined oral contraceptives but without PCOS, the incidence was 10.9 per 10,000 person-years. This amounts to a twofold increased risk in women with PCOS being treated with oral contraceptive therapy.

The incidence was 6.3 per 10,000 person-years in women with PCOS not taking oral contraceptives. The researchers suggest that physicians be vigilant about the increased risk for venous thromboembolism in women with PCOS taking combined oral contraceptives. The study was supported in part by AHRQ (HS19516).

See “Risk of venous thromboembolism in women with polycystic ovary syndrome: A population-based matched cohort analysis,” by Steven T. Bird, Pharm.D., M.S., Abraham G. Hartzema, Ph.D., Pharm.D., James M. Brophy, Ph.D., M.D., and others in the February 5, 2013 *Canadian Medical Association Journal* 185(2), pp. E115-E120. ■ *KB*

Strategies for weight control among women at risk for or with breast cancer

Overweight and obese body mass indexes have been linked with increased risk of death from breast cancer and other types of cancer. Since weight is a modifiable risk factor for cancer, preventing weight gain could be an effective strategy to decrease the risk of malignancy in populations most at risk. A systematic review of strategies to prevent weight gain in individuals at risk of breast cancer or with breast cancer has determined that

there were only two studies with effective interventional strategies for weight maintenance among over 27,000 studies considered for inclusion. This evidence was part of a larger systematic review of strategies to prevent weight gain in adults. Strategies that were effective included use of a low-fat diet in premenopausal women

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Weight control strategies

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with a family history of breast cancer and group counseling on monitoring fat intake resulting in a low-fat diet in women with breast cancer.

The first study of 160 premenopausal women with a family history of breast cancer compared a control diet to three other diets: low-fat diet, a high fruit and vegetable diet, and a combination of low fat and high fruits and vegetables). Only women in the low-fat diet group lost weight. The second study focused on 2,437 women with breast cancer, randomized either to a non-specific counseling group or a group that received a combination of dietary counseling for a low-fat diet with self-management techniques, including goal setting, social support, and dietary relapse prevention and management.

After one year, the women in the low-fat dietary counseling group had lost weight compared to those in the non-specific counseling group. Also, women who had received low-fat dietary counseling had a 24 percent lower risk of breast cancer relapse and 29 percent lower risk of breast cancer recurrence than those who had received non-specific counseling, after 5 years of followup. The researchers did not determine whether weight gain prevention interventions also resulted in decreased cancer incidence or recurrence for other types of cancer. This systematic review was funded by AHRQ (Contract No. 290-06-10061).

See “Comparative effectiveness of strategies to prevent weight gain among women with and at risk for breast cancer: A systematic review,” by Zoobia W. Chaudry, M.D., Rochelle V. Brown, M.D., Oluwakemi A. Fawole, M.P.H., and others in *SpringerPlus* 2, p. 277, 2013. ■ *MWS*

Health Information Technology

Workarounds to procedures embedded in electronic health records are common, even among early adopters

Using observation techniques initially developed in cultural anthropology, researchers found that staff in primary care outpatient clinics (PCOCs) find it helpful to develop paper or computer workarounds to electronic health record (EHR) processes. Paper and computer workarounds to improve efficiency, memory, and awareness were found at all three health care institutions involved in the study, which were all leaders in

the development and application of EHRs. Workarounds involving knowledge/skill/ease of use, task complexity, trust, and no correct path were each found at two of the institutions. Four more workaround categories were each observed within a single institution.

The researchers noted that the workaround category “no correct path,” previously unidentified in workaround research, described tactics developed at two of the institutions when a desired option did not exist in the computer workflow. Examples included lack of an option to show that the physician ordered a patient to take half a blood pressure pill twice daily, or when an EHR brings up a colonoscopy reminder even when

the patient is already scheduled for a colonoscopy appointment.

Overall, the researchers observed 120 clinic staff and providers and 118 patients at 11 PCOCs affiliated with the three benchmark institutions. The study was funded in part by AHRQ (Contract No. 290-06-00013).

More details are in “Paper- and computer-based workarounds to electronic health records use at three benchmark institutions,” by Mindy E. Flanagan, Ph.D., Jason J. Saleem, Ph.D., M.S., Laura G. Millitello, Ph.D., and others in the *Journal of the American Medical Informatics Association* 20, pp. e59-e66, 2013. *DIL*



Decision support tools improve antibiotic prescribing for respiratory infections

Primary care providers often inappropriately prescribe antibiotics for acute respiratory infections (ARIs), which are typically caused by viruses rather than bacteria that antibiotics target. Adding interactive clinical decision support system (CDSS) tools to electronic health records (EHRs) can change antibiotic prescribing and testing patterns for ARIs in primary care practices, concludes two studies.

The study by Cara B. Litvin, M.D., M.S., of the Medical University of South Carolina, and coinvestigators focused on the ABX–TRIP CDSS system implementation of the Center for Disease Control and Prevention “Get Smart” diagnosis and treatment recommendations. The second study by Thomas G. McGinn, M.D., M.P.H., of Hofstra North Shore–Long Island Jewish School of Medicine, and colleagues investigated the implementation of clinical prediction rules for streptococcal pharyngitis and for pneumonia. Both AHRQ-supported studies (Contract No. 290-07-00151, grant HS18491) are briefly summarized here.

Litvin, C.B., Ornstein, S.M., Wessell, A.M., and others. (2013). “Use of an electronic health record clinical decision support tool to improve antibiotic prescribing for acute respiratory infections: The ABX–TRIP study.” *Journal of General Internal Medicine* 28(6), pp. 810–816.

This 27-month study involved nine primary care practices (totaling 27 physicians, 6 nurse practitioners, and 6 physician assistants) in nine States from a practice-based research network using the Practice Partner® EHR. The CDSS intervention included a sophisticated progress note template embedded within the EHR designed to help providers properly diagnose and treat ARIs based on CDC recommendations.

The researchers found that the CDSS was used 38,592 times over the study period. While it did not significantly decrease inappropriate use of antibiotics generally in adult or pediatric patients, the use of broad-spectrum antibiotics fell by about 16 percent in both adults and children. Although antibiotic prescribing for bronchitis did not change significantly over the 27 months, the use of broad-spectrum antibiotics for sinus infections fell by nearly 20 percent.

McGinn, T.G., McCullagh, L., Kannry, J., and others. (2013). “Efficacy of an evidence-based clinical decision support in primary care practices: A randomized clinical trial.” *JAMA Internal Medicine* 173(17), pp. 1584–1591.

This study focused on implementing two clinical prediction rules (the Walsh rule for streptococcal pharyngitis and the Heckerling rule for pneumonia) as part of a CDSS. The researchers implemented the rules in two large urban ambulatory primary care practices at Mount Sinai Medical Center in New York City. A total of 168 primary care providers enrolled in the study and were randomly assigned to either training using journal articles on the two rules (controls) or training in the use of the CDSS with integrated clinical prediction rules to make treatment and testing decisions for 40,003 patient visits.

The intervention group had an overall adoption rate of nearly 63 percent, which is higher than typically observed in the past. Patients with pharyngitis or pneumonia who were seen by an intervention provider were 26 percent less likely to receive an antibiotic, the prescribed antibiotics were more appropriate (i.e., narrow spectrum), and patients were 25 percent less likely to undergo a rapid streptococcal test for pharyngitis. *DIL*



News and Notes



Implementing clinical decision support program reduces pressure ulcers in long-term care

New research supported by AHRQ found that implementing the On-Time Quality Improvement for Long-Term Care (On-Time) Program, a clinical decision support intervention, led to a significant reduction in pressure ulcers. “Evaluation of AHRQ’s On-Time Pressure Ulcer Prevention Program: A Facilitator-Assisted Clinical Decision Support Intervention for Nursing Homes” appeared in the March 2014 issue of *Medical Care*. The program’s components include information technology-enabled identification of high-risk residents, reports that profile residents with recent changes in risk, strategies to integrate reports into care planning, and guided facilitation to support adoption of tools and strategies. The program resulted in a large and statistically significant reduction in pressure ulcer incidence when implemented, suggesting that widespread adoption could increase patient safety. To access the abstract, select: <http://www.ncbi.nlm.nih.gov/pubmed/24374408>.

Evidence lacking on the value of preoperative testing

A new AHRQ research review finds that with the exception of cataract surgery, there is a lack of reliable evidence on the benefits, harms, and

resource use associated with routine or per protocol preoperative testing for all tests used for all procedures. For patients scheduled for cataract surgery, routine preoperative testing including electrocardiography (ECG), basic metabolic panel (biochemistry), and complete blood count has no effect on important clinical outcomes, including total perioperative complications or procedure cancellations.

Preoperative testing, including a panel of blood tests, urine tests, chest radiography, and ECG, has been part of the preoperative care process to determine patient’s fitness for anesthesia and identifying patients at high risk for perioperative complications. No conclusions could be drawn regarding preoperative testing’s impact on quality of life, satisfaction, resource use, or harms of testing, and whether other factors may affect the balance of benefits and harms. Given the large number of patients undergoing elective surgery, there is a clear need to develop better evidence for when routine or per protocol testing improves patient outcomes and reduces potential harms. These findings are available in the research

review, *Benefits and Harms of Routine Preoperative Testing: A Comparative Effectiveness Review* at www.effectivehealthcare.ahrq.gov.

Journal issues highlights integrating mixed methods in health services and delivery system research

A special issue of *Health Services Research*, sponsored by AHRQ, contains papers solicited and reviewed using the journal’s standard procedures, along with an editorial overview. Benjamin Crabtree and William Miller were guest editors. Papers address: research designs for achieving mixed methods integration; processes in mixed method research teams; mixed methods analyses of care redesign; and care delivery in diverse settings. Included among the papers are reports funded under AHRQ’s Delivery System Initiative. To access the issue go to <http://onlinelibrary.wiley.com/doi/10.1111/hesr.2013.48.issue-6pt2/issuetoc>. For further information on Advanced Methods in Delivery System Research and the Primary Care Medical Home Research Methods Series go to <http://go.usa.gov/B6gw> and <http://go.usa.gov/B6ge>.



Research Briefs

Akbaraly, T.N., Hamer, M., Ferrie, J.E., and others. (2013, November). "Chronic inflammation as a determinant of future aging phenotypes." (AHRQ grant HS06516). *Canadian Medical Association Journal* 185(16), pp. E763-E770.

This study found that chronic inflammation, as ascertained by repeat measurements of interleukin-6, was related to a range of unhealthy aging phenotypes and a decreased likelihood of successful aging. It analyzed aging phenotypes based on validated clinic-based measures and medical records in a large sample with a long followup.

Baer, H.J., Cho, I., Walmer, R.A., and others. (2013 July/August). "Using electronic health records to address overweight and obesity: A systematic review." (AHRQ Grant HS19789). *American Journal of Preventive Medicine* 45 (4), pp. 494-500.

This systematic review found only a small number of papers (11 out of 1,188 unique citations) that discussed adding a new feature or modifying an existing one to electronic health records (EHRs), to enhance their ability to help clinicians identify, evaluate, or manage patients with clinical overweight or obesity. Of the 11 relevant papers, 7 focused on

overweight/obesity in children and adolescents, while 4 were related to this problem in adults.

Beaubrun, A.C., Kanda, E., Bond, C., and McClellan, W.M. (2013). "Form CMS-2728 data versus erythropoietin data: Implications for quality of care studies." (AHRQ grant T32 HS00032). *Renal Failure* 35(3), pp. 320-326.

This study used logistic and multivariate regressions to compare the use of either Form CMS-2728 or the corresponding claims data to predict mortality and the probability of meeting target hemoglobin levels. Patients with a predialysis erythropoietin claim were less likely to die compared with patients without a claim, but there was no relationship observed between predialysis care and death using only Form CMS-2728 predictors.

Bell, H., Preisser, J.S., and Rozier, G. (2013). "Accuracy of record linkage software in merging dental administrative data sets." (AHRQ grant HS18076). *Journal of Public Health Dentistry* 73, pp. 89-93.

The objective of this study was to determine the accuracy of record matching using "Link King" software that uses an ordinal score for the certainty that linked records are valid matches. It found that this publicly available program accurately merged Medicaid and surveillance data.

Brotman, D.J., Shihab, H.M., Prakasa, K.R., and others. (2013, July). "Pharmacologic

and mechanical strategies for preventing venous thromboembolism after bariatric surgery. A systematic review and meta-analysis." (AHRQ Contract No. 290-07-100611). *JAMA Surgery* 148(7), pp. 675-686.

After reviewing the literature through August 2012 on prevention of venous thromboembolism following bariatric (weight-reduction) surgery, the authors found only 13 primary studies that included 2 interventions (8 studies of pharmacologic strategies and 5 studies of intravenous filter placement). None of the studies randomly assigned its subjects to an intervention.

Campbell, N.L., Dexter, P., Perkins, A.J., and others. (2013, May). "Medication adherence and tolerability of Alzheimer's disease medications: Study protocol for a randomized controlled trial." (AHRQ grant HS19818). [BMC] *Trials* 14(125), 9 pp.

Researchers in central Indiana have designed and begun enrolling subjects in a randomized controlled trial to evaluate the rates of discontinuation of and adherence over 18 weeks to donepezil, galantamine, and rivastigmine—three acetylcholinesterase inhibitors, which are approved by the U.S. Food and Drug Administration to treat patients with mild to moderate Alzheimer's disease. In the article, the researchers explain the purpose of the study, the methods and design, the primary and secondary outcomes, and the status of the trial at the time of publication.

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Research briefs

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De Koning, H.J., Meza, R., Plevritis, S.K., and others. (2013, December). “Benefits and harms of computed tomography lung cancer screening strategies: A comparative modeling study for the U.S. Preventive Services Task Force.” (Interagency agreement between AHRQ and the National Cancer Institute). *Annals of Internal Medicine*.

The researchers sought to identify efficient computed tomography (CT) screening scenarios in which relatively more lung cancer deaths are averted for fewer CT screening exams. The most advantageous strategy was annual screening from ages 55 through 80 years for ever-smokers with a smoking history of at least 30 pack-years and ex-smokers with less than 15 years since quitting.

Fakih, M.G., George, C., Edson, B.S., and others. (2013, October). “Implementing a national program to reduce catheter-associated urinary tract infection: A quality improvement collaboration of State hospital associations, academic medical centers, professional societies, and government agencies.” (AHRQ Contract No. 290-10-00025). *Infection Control and Hospital Epidemiology* 34(10), pp. 1048-1054.

The authors outline the logic behind and history of the national implementation of the successful pilot program to reduce catheter-associated urinary tract infection (CAUTI). This effort involves changing clinicians’ use of catheters by restricting the indications for catheter use in hospitalized patients and limiting their length of use. Preventing the infection is

important to hospitals because the Center for Medicare & Medicaid Services stopped reimbursing hospitals for hospital-acquired CAUTI in 2008.

Fraser, I., and Sandmeyer, B. (2013, Fall). “Improving quality through enhanced public reporting.” *Premier Quality Outlook QTR* 3.13, pp. 26-29. Reprints (AHRQ Publication No. 14-R001) are available from AHRQ.*

The AHRQ researchers give a brief history of public reporting of health care quality and the reports that increased policymakers’ and public interest in comparative reports for the public on quality and cost of care. They include a map showing State-level and regional variations in the overall quality of care. The researchers also discuss several challenges for public reporting.

Gilmer, T. P., Katz, M.L., Stefanic, A., and Palinkas, L.A. (2013, December). “Variation in the implementation of California’s full service partnerships for persons with serious mental illness.” (AHRQ grant HS19986). *HSR: Health Services Research* 48(6), Part II, pp. 2245-2263.

This study examined variation in the implementation of California’s Full Service Partnerships (FSPs), which are supported housing programs that do “whatever it takes” to improve outcomes among persons with serious mental illness who are homeless or at risk of homelessness. It found substantial variation in implementation among FSPs, indicating that many FSPs implemented a variety of services, but applied housing readiness requirements and did not adhere to consumer choice in housing.

Joshi, A., Wilhelm, S., Aguirre, T., and others. (2013, July–December). “An interactive, bilingual touch screen program to promote breastfeeding among Hispanic rural women: Usability study.” (AHRQ grant HS21321). *JMIR [Journal of Medical Internet Research] Research Protocols* 2(2)c47, 11 pp.

The researchers tested the usability of a proposed computerized educational intervention on breastfeeding for rural Hispanic women using a 10-person convenience sample recruited at a rural medical center in Nebraska. The women were asked to perform six tasks with the Patient Education and Motivation Tool program and evaluate its usability using a 5-point Likert scale to respond to 10 questions. The average system usability score was 90, representing a product with exceptional usability.

Kesselheim, A.S., Wang, B., and Avorn, J. (2013, September). “Defining “innovativeness” in drug development: A systematic review.” (AHRQ grant HS18465). *Nature* 94(3), pp. 336-347.

The objective of this review was to develop a taxonomy of various methodologies used to measure pharmaceutical innovation and determine whether alternative definitions of “innovation” provided different perspectives on the actual rate of innovation. It found that studies using counts of new product approval were significantly more likely than studies using any other measure of pharmaceutical innovation to find a favorable or positive trend in pharmaceutical innovation.

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Lawrence, W. (2013).

“Comparative effectiveness research in practice and policy for radiation oncology.” *Seminars in Radiation Oncology* 24, pp. 54-60.

In radiation oncology, where many of the traditional clinical trials are comparative in nature, the line between comparative effectiveness research (CER) and “traditional” research may be blurry. The author argues that an increased emphasis on CER can help to build a bridge between the research enterprise and clinical practice, helping to inform decisionmaking at the patient, clinician, and policy levels.

Mogos, M.F., Salihu, H.M., Aliyu, M.H., and others. (2013, February). **“Association between reproductive cancer and fetal outcomes: A population-based study.”** (AHRQ grant HS19997). *International Journal of Gynecological Cancer* 23(2), pp. 218-226.

The researchers sought to determine how fetal birth outcomes are affected by the mother having reproductive system cancer. Using a retrospective population-based cohort of 1.57 million women giving birth to a single child in Florida, the researchers compared women diagnosed with reproductive system cancer (cases) with cancer-free controls. They found that the affected women (0.21 percent of the study population) had a significantly higher risk of having a low birth-weight infant or a preterm infant.

Quigley, D.D., Martino, S.C., Brown, J.A., and Hays, R.D. (2013). **“Evaluating the content of the communications items in the CAHPS Clinician and Group Survey and supplemental items with what high-performing physicians say they do.”** (AHRQ grant HS16980). *Patient* 6, pp. 169-177.

An evaluation of how well the CAHPS Clinician and Group 2.0 core and supplemental survey items captures doctor-patient communication found that it fully captures six of the nine behaviors most commonly mentioned by high-performing physicians. Some of these are: employing office staff with good people skills; spending enough time with patients; listening carefully; providing clear, simple explanations, and devising an action plan with each patient.

Ringold, S., Weiss, P.F., Beukelman, T., and others. (2013). **“2013 update of the American College of Rheumatology recommendations for the treatment of juvenile idiopathic arthritis: Recommendations for the medical therapy of children with systemic juvenile idiopathic arthritis and tuberculosis screening among children receiving biologic medications.”** (AHRQ grant HS19482). *Arthritis Care & Research* 65(10), pp. 1551-1563.

The overarching objective of this project was to update the 2011 recommendations for the use of nonbiologic and biologic disease-modifying anti-rheumatic drugs in the treatment of systemic juvenile idiopathic arthritis (JIA). There is

a need for an update due to newly published data from randomized trials of new IL-1 inhibitors and IL-6 inhibitors in children with systemic JIA.

Spector, W.D. (2013, January). **“Optimal staffing to prevent nursing home hospitalizations.”** *Medical Care* 52(1), pp. 93-94.

The author replies to a letter by Dr. G. Allen Power concerning the author’s study on potentially avoidable hospitalizations for elderly long-stay residents in nursing homes. In contrast to Dr. Powers’ strategy of adding one aspect of care organization at a time, the author advocates identifying a small set of easily collected measures that generally modify the effects of care organization innovations and putting these in place.

Wade-Vuturo, A.E., Mayberry, L.S., and Osborn, C.Y. (2013, May/June). **“Secure messaging and diabetes management: Experiences and perspectives of patient portal users.”** (AHRQ grant T32 HS13833). *Journal of the American Medical Informatics Association* 20(3), pp. 519-525.

This study of adults with type 2 diabetes mellitus sought to find out the benefits of secure messaging (SM) within a medical center’s patient portal, as well as the barriers to such use. The researchers gathered information from the 54 subjects, through a focus group combined with a survey, or through a survey alone. They found that greater self-reported use of SM to manage medical appointments

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was significantly associated with a patient's glycemic control.

Wang, S., Jiang, X., Wu, Y., and others. (2013). EXpectation Propagation Logistic REgRession (EXPLORER): Distributed privacy-preserving online model learning.” (AHRQ grant HS19913). *Journal of Biomedical Informatics* 46, pp. 480-496.

The researchers developed the EXPLORER model for distributed privacy-preserving online learning. The proposed framework provides a high-level guarantee for protecting sensitive information. When new observations are recorded, EXPLORER can be updated one point at a time rather than having to retrain the entire data set when new observations are recorded.

Wren, T.A.L., Lening, C., Rehtlefsen, S.A., and Kay, R.M. (2013). “Impact of gait analysis on correction of excessive hip internal rotation in ambulatory children with cerebral palsy: A randomized controlled trial.” (AHRQ grant HS14169). *Developmental Medicine & Child Neurology* 55, pp. 919-925.

The purpose of this study was to examine the impact of gait analysis on the correction of excessive internal hip rotation using data from a randomized controlled trial. It found that gait analysis can improve outcomes when its recommendations for external femoral derotation osteotomy were incorporated into the treatment plan.

Zwaan, L., Schiff, G.D., and Singh, H. (2013). “Advancing the research agenda for diagnostic error reduction.” (AHRQ grant HS17820). *BMJ Quality and Safety* 22, pp. ii52-ii57.

The authors classify current research in diagnostic error reduction into three main topic areas: (1) epidemiology of diagnostic error (frequency, types, detection methods), (2) cause of diagnostic error (cognitive and system issues), and (3) error prevention strategies (development, implementation, and evaluation of interventions). They summarize the methods used to conduct research in these areas and outline future research needs to better understand and reduce diagnostic error in medicine. ■

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